

First episode psychosis and ethnicity: initial findings from the AESOP study

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In this paper we provide an overview of the design and the initial findings of the AESOP (Aetiology and Ethnicity in Schizophrenia and Other Psychoses) study. The AESOP study is a major multi-centre incidence and case-control study conducted in the UK. Its primary aim is to investigate the high rates of psychosis in African-Caribbean populations from the UK, and from this to shed light on the aetiology of psychosis in general. As the study has progressed, the wealth of data collected has allowed further questions to be addressed: for example, about determinants of duration of untreated psychosis. Initial findings relating to incidence rates and between-case comparisons are presented. Future planned analyses are outlined and details of a follow-up of the AESOP cohort and ongoing international collaborations are provided.

Key words: Psychosis, ethnicity, aetiology, incidence

One of the most consistent findings in the epidemiology of schizophrenia is the high incidence of the disorder among migrant and ethnic minority groups (1). The most striking and perhaps well-known example is that of the African-Caribbean population in the UK. Since the 1960s, there have been close to twenty studies comparing rates of schizophrenia and other psychoses in this population with those among Whites (variously defined) in the UK. All have reported incidence rates to be higher for African-Caribbeans, with a range from 2 to 18 times (see 2). These findings are mirrored in studies of migrant and ethnic minority groups in other countries, most notably the reported high rates of psychosis among Surinamese migrants and descendants in the Netherlands (3). In the UK, research has consistently shown that African-Caribbeans are not only at greater risk of developing psychosis, but are also more likely to access mental health care via adversarial routes, often involving the police and compulsory admission, and more likely to be treated in secure and forensic settings (4,5).

While research to date has clearly demonstrated a greater need for mental health care among some migrant and ethnic minority groups in the UK, it has been less successful in explaining the excess rates of psychosis and of compulsory admissions, and, by extension, in informing policy and service responses.

The AESOP (Aetiology and Ethnicity in Schizophrenia and Other Psychoses) study was established to address these gaps in existing knowledge. Specifically, the initial primary aims were: a) to conduct a large population based, first contact case-control study of psychosis in which to test hypotheses concerning social and biological factors which might explain the increased incidence of schizophrenia in the African-Caribbean population in the UK; b) by determining the causes of the high incidence in this population, to throw light on the aetiology of schizophrenia in general.

As the study has progressed, the wealth of data collected has allowed a much broader range of questions to be addressed in addition to these initial aims. Hypotheses concerning pathways to care and duration of untreated psychosis (DUP) among different ethnic groups, for example, have already been investigated, and questions not specifically related to ethnicity have been examined (e.g., whether the incidence of psychosis varies geographically, what the general correlates of DUP are). As such, the AESOP study has become a much broader and far ranging study than was initially intended, and we have now begun a follow-up of the cohort that formed the basis of the baseline study.

This paper has three aims: a) to provide an introduction to, and an overview of, the design and methods of the AESOP study; b) to summarise data collected to date, focusing on incidence rates and between-case comparisons; and c) to outline future plans for the study, including planned analyses, a follow-up and international collaborations.

METHODS

The AESOP study is a multi-centre population based incidence and case-control study of first episode psychosis, conducted initially over a three-year period from September 1997 to August 2000. The study sample comprises: a) all patients with a first episode of psychosis (F10-F29 and F30-F33 in ICD-10) who presented to secondary and tertiary services within tightly defined catchment areas in south-east London, Nottingham and Bristol over defined time periods; b) where possible, a close relative of each patient; and c) a random sample of healthy community controls.

The inclusion criteria for cases were: a) age between 16 and 65 years; b) resident within tightly defined catchment areas in Nottingham, Bristol or south-east London; c) presence of a first episode of psychosis (F10-F29 and F30-F33 in ICD-10) within the time frame of the study; and d)

Table 1 Data collection instruments used in the AESOP study

Clinical	Psychosocial	Cognitive, biological
Schedules for Clinical Assessment in Neuropsychiatry ^{a,d}	MRC Sociodemographic Schedule ^{a,b,c,d}	Neuropsychological test battery ^{a,c}
Personal and Psychiatric History Schedule ^{a,b,d}	Culture and Identity Schedule 1 ^{a,c}	Neurological soft signs ^{a,c}
	Culture and Identity Schedule 2 ^{a,c}	Minor physical anomalies ^{a,c}
	Achievements and Expectations Schedule ^{a,c}	Family Interview for Genetics ^{a,b,c}
	Employment Schedule ^{a,c}	
	Significant Others Schedule ^{a,c}	Magnetic resonance imaging ^{a,c}
	Insight Schedule ^a	DNA ^{a,c}
	Childhood Experiences of Care and Abuse Questionnaire ^{a,c}	
	Life Events and Difficulties Schedule ^{a,c}	
	Mental Disorder Beliefs Schedule ^{a,b,c}	
	Locus of Control ^{a,c}	
	Self-Esteem ^{a,c}	
	Self-Concept ^{a,c}	

Used to collect data from: ^a cases; ^b relatives; ^c controls; ^d case records. Full details available from authors on request

no previous contact with health services for psychosis. Exclusion criteria were: a) evidence of psychotic symptoms precipitated by an organic cause; b) transient psychotic symptoms resulting from acute intoxication as defined by ICD-10; and c) IQ less than 50.

Case finding procedures were based on those used by the World Health Organization (WHO) in its multi-country studies of the incidence and outcome of schizophrenia (6). A team of researchers was involved in regularly checking all points of potential patient contact with secondary and tertiary health services in the catchment areas. All potential cases were screened for inclusion using the Screening Schedule for Psychosis (6), which was completed by interviewing the patient and/or using case notes and information provided by psychiatric staff. Each patient meeting inclusion criteria for the study was approached and informed consent sought. Case recruitment took place initially over two years in Nottingham and south-east London and nine months in Bristol. During the third year of the study, recruitment of African-Caribbean cases was extended in Nottingham and south-east London to increase the number of these patients in the case-control arm of the study. At the end of the period of case recruitment, a leakage study was conducted to identify further potential cases initially missed. For each patient included in the study, we also sought consent to interview a close relative who had been in recent contact with the patient.

A random population based sample of control subjects was selected using the same sampling frame as that used by the Office of Population and Census Statistics (OPCS) Psychiatric Morbidity Survey, namely the postal address file (PAF) (7). The PAF was used to generate a random sample of ten target addresses for each case from which controls were recruited. Each address was contacted three times (morning, afternoon, evening) to find an eligible control subject (age between 16 and 65 years) who was willing to participate. This method broadly matches cases and controls by area of residence. Cases and controls were otherwise unmatched, the aim being to select a sample of controls that was repre-

sentative of the population from which the cases were drawn. To ensure a sufficient number of African-Caribbean controls were recruited, we over-sampled this group.

The full range of data collection instruments used is detailed in Table 1. Subjects who consented to take part completed on average 15 hours of interviews and assessments, yielding a considerable range of data.

Clinical data were collected using the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) (8). The SCAN incorporates the Present State Examination Version 10, which was used to elicit symptom-related data at the time of presentation. Where an interview with the patient was not possible, case notes were used to complete the Item Group Checklist (IGC) part of the SCAN. ICD-10 diagnoses were determined using the SCAN data on the basis of consensus meetings involving one of the principal investigators and other members of the research team. There was an assessment for possible bias between the principal investigators. Each independently formulated a diagnosis for 20 patients based on the same summary SCAN information. There was 80% agreement on diagnostic category (kappa values ranged from 0.63 to 0.75, $p < 0.001$).

In assigning patients to ethnic groups, a number of data sources were used. The primary source was self-ascribed ethnicity, collected using the Medical Research Council Sociodemographic Schedule. Where this was not available, other sources were used, including other informants and case notes. Where there was ambiguity, a consensus rating was made by members of the research team; this always included those with long-standing expertise in the study of ethnicity and mental health.

RESULTS

The AESOP sample

During the study period, we identified 592 cases (330 in south-east London; 205 in Nottingham; 57 over 9 months

Table 2 Basic characteristics of the AESOP sample

	London		Nottingham		Bristol	
	Cases	Controls	Cases	Controls	Cases	Controls
Age (mean \pm SD)	31.0 \pm 10.5	36.1 \pm 11.3	30.3 \pm 11.2	38.4 \pm 13.4	30.7 \pm 10.8	31.5 \pm 9.4
Male, N (%)	186 (56.7)	67 (36.6)	122 (59.5)	95 (45.7)	39 (68.4)	9 (42.9)
White British, N (%)	78 (23.6)	76 (41.5)	151 (73.7)	164 (78.9)	37 (64.9)	19 (90.5)
African-Caribbean, N (%)	126 (38.2)	51 (27.9)	27 (13.2)	23 (11.1)	10 (17.5)	1 (4.8)
Black African, N (%)	66 (20.0)	21 (11.5)	3 (1.5)	1 (0.5)	5 (8.8)	0 (0.0)

Table 3 Distribution of diagnoses in the AESOP patient sample

	London N (%)	Nottingham N (%)	Bristol N (%)
Non-affective psychoses	248 (75.2)	140 (68.3)	40 (70.2)
Manic psychosis	45 (13.6)	26 (12.7)	6 (10.5)
Depressive psychosis	37 (11.2)	39 (19.0)	11 (19.3)

in Bristol), and 412 controls (183 in south-east London; 208 in Nottingham; 21 in Bristol), a total of 1004 subjects. Of the cases identified, 390 (66%) consented to be interviewed. Of the remaining 202 (34%), 66 (11%) were identified as part of the leakage study and not approached to be interviewed, 58 (10%) could not be contacted or did not speak English, and 78 (13%) refused to be interviewed. Table 2 summarises the basic demographic characteristics of the study sample by case-control status and study centre, and Table 3 breaks the sample of cases down by diagnosis.

Incidence rates

Analyses of the incidence of psychosis using AESOP data have so far focused on whether there are notable variations in the incidence of psychosis by geographical area and/or ethnic group (9-11).

Using denominator data from the 2001 census, we found strong evidence that the incidence of psychosis does vary between the geographical areas covered by the study. The incidence rates for all psychoses were significantly lower in both Nottingham and Bristol (25 per 100,000 person years and 22 per 100,000 person years, respectively) compared with south-east London (55 per 100,000 person years) [incidence rate ratio, IRR: 0.5 (0.4-0.6) for Nottingham; 0.4 (0.3-0.6) for Bristol]. When the data were stratified by diagnostic group, this pattern remained across all diagnoses (schizophrenia, affective psychoses, other psychoses). Furthermore, standardising for age and sex and adjusting for ethnicity did not markedly alter these findings.

We found the incidence of all psychoses to be significantly higher in African-Caribbean and Black African populations across all three centres compared with the baseline White British population [African-Caribbeans: IRR 6.7 (5.4-8.3); Black Africans: IRR 4.1 (3.2-5.3)]. These differences were most marked for narrowly defined schizophrenia (F20) and manic psychosis (F30-31). For example, after

adjusting for age, the incidence of schizophrenia across the three study centres was nine times higher in the African-Caribbean population [IRR 9.1 (6.6-12.6)] and six times higher in the Black African population [IRR 5.8 (3.9-8.4)]. The incidence rates for schizophrenia in the African-Caribbean and Black African populations (71 per 100,000 person years, and 40 per 100,000 person years, respectively) are among the highest ever reported. A strikingly similar pattern was evident for manic psychosis (F30-31). After adjusting for age, the incidence of manic psychosis was eight times higher for African-Caribbeans [IRR 8.0 (4.3-14.8)] and six times higher for Black Africans [IRR 6.2 (3.1-12.1)] compared with the White British baseline group. The rates of depressive psychosis were also raised, but more modestly [African-Caribbeans: IRR 3.1 (1.5-3.6); Black Africans: IRR 2.1 (0.9-5.0)]. Intriguingly, the incidence rates for all psychoses were also raised for all other ethnic groups (other White, Asian, mixed, other) compared with the White British populations, albeit much more modestly (IRRs for all psychoses ranged from 1.5 to 2.7).

Pathways to care and DUP

Analyses of differences between cases included in the study have so far focused on two key issues: a) whether there are ethnic variations in pathways to mental health care at first presentation; and b) what are the correlates of DUP (12-15).

When pathways to first contact with services were compared between cases from different ethnic groups, three notable differences emerged. First, both African-Caribbean and Black African patients were significantly more likely to be compulsorily admitted to hospital. Over 50% of both African-Caribbeans and Black Africans were admitted to hospital compulsorily, compared with only 24% of White British patients. African-Caribbean men were the most likely to be compulsorily admitted (61%). Second, both African-Caribbean and Black African patients were significantly more likely to access services via the police or another criminal justice agency. Over 30% of both African-Caribbeans and Black Africans were referred to mental health services via this route compared with only 12% of White British patients. Third, both African-Caribbean and Black African patients were significantly less likely to access services via a general practitioner. Less than 30% of

both African-Caribbeans and Black Africans were referred to mental health services by a general practitioner compared with over 40% of White British patients. When a range of potential explanatory variables were adjusted for (e.g., indicators of social isolation, aspects of clinical presentation, other features of the pathway to care), these differences remained strong.

Surprisingly, we found that differences in pathways to care between ethnic groups could not be explained by longer delays in accessing care among African-Caribbeans and Black Africans. Indeed, we found no evidence that the DUP was longer for these patients than for White British patients.

Using data on DUP, we were able to address the important issues of which factors correlated with DUP in a multi-centre epidemiological sample. Overall, the median DUP in the AESOP sample was 9 weeks [inter-quartile range (IQR) 2-40; mean \pm SD 58 ± 148 weeks]. The distribution of DUP was heavily skewed, with the majority of patients accessing treatment within 10 weeks of onset and the minority presenting much later, often in excess of 2 years. We found that four variables were strongly associated with a long DUP: an insidious mode of onset (median DUP 32 weeks; IQR 11-99); a diagnosis of schizophrenia (median DUP 13 weeks; IQR 3-53); being unemployed (median DUP 13 weeks; IQR 4-52); and absence of family involvement in seeking help (median DUP 12 weeks; IQR 3-54). Each of these variables remained significantly associated with a longer DUP after adjusting for potential confounders, including age at onset, sex, and study setting. No other social variables (living alone, being single, poor education) were associated with a longer DUP.

DISCUSSION

The AESOP study is one of the largest studies of first episode psychosis. In recruiting a large cohort of cases and controls and collecting data relating to both a wide range of risk factors for psychosis and a range of service use related variables, we are able to test a host of important hypotheses.

Methodological issues

The validity of findings from previous studies of the incidence of schizophrenia and other psychoses among different ethnic groups in the UK has been challenged on methodological grounds. Serious questions have been raised about: a) the accuracy of denominator data for ethnic minority groups; b) completeness of case ascertainment; and c) diagnostic validity across different ethnic groups. In relation to each of these, the AESOP study marks an improvement on most previous research. Firstly, it is the first to use data from the 2001 census, which probably has the most accurate estimates of ethnic minority populations to date (although it is not flawless). We also repeated the

analyses of incidence rates for different ethnic groups using 1991 census data, with no notable differences in the findings. Given the level of population underestimation required to explain, for example, an up to 10-fold increased incidence of schizophrenia among African-Caribbeans, it is highly unlikely that inaccurate denominator data could explain our findings. Secondly, our case ascertainment methods were comprehensive, drawing on the WHO Ten Country Study and the experience of researchers in the study centres, to ensure as complete coverage as possible of all possible points of service contact for patients with a first episode of psychosis. Further, leakage studies conducted at the end of the period of case recruitment increase our confidence that the overwhelming majority of new cases of clinically significant psychosis were identified. Of course, it is likely that a small minority of cases were missed but, for this to explain our findings, the missed cases would have to have been disproportionately White British and the numbers significant. Thirdly, diagnoses were made by consensus, blind to ethnicity, on the basis of all available information, including data from SCAN interviews. This approach again broadly replicates the methods used in the WHO studies and studies of the incidence of psychosis in Caribbean countries, which have revealed incidence rates similar to those for the White British in the UK. This reduces possible diagnostic biases, and again, for the findings to be fully explained by misdiagnosis of ethnic minority cases, the level of error would have to have been substantial.

Incidence rates

The absence of a statistically significant difference in the incidence of narrow schizophrenia between the countries included in the WHO Ten Country Study has led many to contend that the incidence of schizophrenia is uniform across the globe, and that therefore schizophrenia must be a predominantly genetic disorder (6). Recent reviews by McGrath et al (16) and Cantor-Graae and Selten (1), however, in providing evidence of substantial variations across place and persons, challenge this view. Our findings that the incidence of all psychoses vary by geographical area and ethnic group contribute to the growing evidence that the incidence of schizophrenia and other psychoses is not uniform. In particular, the finding that the incidence of psychosis is higher in south-east London, a much more urbanised and heavily populated area than either Nottingham or Bristol, provides some support for the suggestion that urbanicity is a risk factor or indicator for psychosis (17).

With regard to ethnicity, our findings of marked variations in incidence rates support previous studies showing high rates of schizophrenia in African-Caribbean populations in the UK, and extend these by showing that: a) rates of all psychoses are high; and b) rates are similarly elevated in the Black African population in the UK. Given that the AESOP study overcomes many of the methodological

limitations that have characterised previous studies in this area, the weight of evidence is such that there can now be little doubt that there is a genuine and marked excess of psychotic illness in African-Caribbean and Black African populations in the UK. Further, the AESOP study is the first incidence study with sufficient numbers of cases from other ethnic groups (including other Whites) to allow reasonably accurate estimates of incidence in these groups. What our findings suggest is that the incidence of psychoses in these groups is elevated compared with the White British population, but more modestly than for African-Caribbeans and Black Africans. This mirrors the conclusion drawn by Cantor-Graae and Selten (1) that there is a general increased risk for migrant and ethnic minority groups, but that this risk is highest "for those migrants from areas where the majority population is black". Understanding this difference may be key to explaining the high rates among African-Caribbeans and Black Africans, and may provide important clues more generally concerning the aetiology of psychosis. It is this that the case-control component of the AESOP study is attempting to achieve.

Pathways to care and DUP

Data relating to pathways to care and DUP from the AESOP study challenge some previous assumptions. For example, studies by Burnett et al (18) and Cole et al (19), both small first onset studies, showed no differences in the proportions of compulsory admissions among different ethnic groups at first contact, leading to the suggestion that differences emerged over time, in the course of repeated contacts with services (20). This view has important implications as it suggests that a major reason for the greater use of compulsion among African-Caribbeans is that they have more negative experiences of services, leading them to disengage and resist intervention in the event of relapse, consequently increasing the risk of subsequent compulsory intervention. The data from the AESOP study strongly suggest that there are ethnic differences at first contact, and consequently that processes must be operating within these communities to increase the risk of an adverse pathway to care prior to contact with services. Understanding what these processes are is a key challenge for future research. What seems clear, however, is that African-Caribbeans do not, as is commonly assumed, experience longer treatment delays leading them to present in crisis when the need for compulsion is greater.

Our findings more generally regarding DUP are equally important. What they suggest is that the time from onset of psychosis to contact with services is influenced both by aspects of the early illness course (mode of onset, initial diagnosis) and the social context (unemployment, family involvement, service context). This has potentially important implications for developing early intervention services.

While on the one hand our findings suggest that DUP is, to a degree at least, shaped by malleable social factors and that strategies may be possible to reduce delays, on the other hand they suggest that DUP is strongly associated with other aspects of early illness course that predict poor outcomes (particularly an insidious mode of onset). This further emphasises the need for future studies of the relationship between DUP and outcomes to more fully adjust for these potential confounders. In short, our findings emphasise that it is still possible that the association between DUP and outcomes is confounded, and, while ever this is the case, greater caution is needed before basing wholesale service reforms on the reported association between DUP and outcomes.

Realising the AESOP study's potential

The primary focus of the next stage of analyses will be on case-control comparisons, the primary purpose being to investigate hypotheses relating to the excess of psychosis among African-Caribbeans and Black Africans. For example, early analyses focusing on childhood separation from parents and adult social exclusion have produced some indications that these factors may be important in explaining, at least partly, the excess of psychosis among African-Caribbeans (21), confirming the findings of Mallett et al (22) from a smaller study. Further hypotheses regarding the potential effects of ambivalent cultural identity, unemployment and life events will be investigated using data collected using two Culture and Identity Schedules (20), the Employment Schedule (23) and the Life Events and Difficulties Schedule (24). Data collected relating to brain structure, neuropsychology and family history will allow further hypotheses regarding biological and cognitive risk factors to be investigated. The first stage of these analyses is, therefore, very much about identifying or replicating specific risk factors. The major strength of the AESOP study, however, is that it will allow models to be built that investigate the relative impact of specific factors and interactions between them. It is envisaged that these kinds of analyses will be built on the foundations of the more traditional risk factor analyses outlined above, and it is this that will reveal the full potential of this unique data set.

Intriguing findings that have emerged from initial analyses of AESOP's biological data illustrate this. We have already found, for example, that there is an excess of focal neurological signs and of motor coordination problems in patients (compared with controls), perhaps reflecting vulnerability to psychosis. This is supported by our magnetic resonance imaging findings to date, which show that an excess of these signs in patients (but not controls) is associated with a smaller volume of basal ganglia and thalamus (25,26). These findings are unaccounted for by the effect of treatment with antipsychotic medication (27). Tentatively, this suggests that motor dysfunction and focal neurological

signs in psychosis may be the functional correlates of abnormalities of the integrative functions performed by structures involved in the pathogenesis of schizophrenia, such as the basal ganglia and the thalamus. Further, we have evaluated the volume of the pituitary gland, reporting a marked enlargement of this gland (18%) in patients compared with healthy controls. This enlargement provides indirect evidence of activation of the hypothalamic-pituitary axis (28), and opens up further interesting potential avenues for combining our social and biological risk factor data to look at the role of stress.

Future directions: follow-up and international collaborations

Analysis of the baseline AESOP data is very much ongoing. Alongside this there are two further developments that are enhancing this programme of research: a follow-up study and international collaborations.

When the AESOP study was established, one aim was to create a cohort of individuals with a first episode of psychosis who could be followed up over time. During the past year we have successfully conducted a pilot 6-8 year follow-up of 100 subjects (50 cases and 50 controls) initially recruited to the AESOP study, collecting data relating to course and outcome (both clinical and social), neuropsychological function, brain structure, and forensic history, and, funding permitting, we will now extend this to the full sample, allowing important questions to be addressed concerning determinants of outcome following a first episode of psychosis.

As the AESOP study has progressed, a number of international collaborations have been established, resulting in studies being set up in four other countries, which are based to a greater or lesser degree on the AESOP protocol: Trinidad, Brazil (Sao Paulo), Northern Ireland (Belfast) and Italy (Verona). Parallel studies in different social and cultural contexts offer considerable opportunities for comparisons, and already some initial work is yielding interesting findings. In Trinidad, for example, over 400 first episode cases of psychosis have been recruited and early analyses indicate a higher incidence among African-Trinidadians compared with Indo-Trinidadians (29). Further, comparisons of the role of social risk factors and differences in pathways to care in Trinidad and the UK promise to enhance our understanding both of the aetiology of psychosis and of patient and family responses to psychosis in different cultural settings. We are, moreover, keen to extend our international collaborations to create a network of first onset studies across the world, and new possibilities are already being explored. In this way, we can build on the AESOP study, and the findings of individual studies can be collated and compared, providing unique new insights into, and answering important questions about, psychosis.

APPENDIX

The AESOP Study Group includes: Glynn Harrison, John Holloway, Florence Muga (Bristol); Peter Jones, Rudwan Abdul-Al, Maureen Ashby, Alan Fung, Hazel Hayhurst, James Kirkbride, Jouko Mietunen (Cambridge); Robin Murray, Julian Leff, Stefan Auer, Jane Boydell, Rachel Burnett, Ben Chapple, Tom Craig, Paola Dazzan, Kimberlie Dean, Arsime Demjaha, Rina Dutta, Paul Fearon, Francena Fonseca, Marta Di Forti, Helen Fisher, Ayana Gibbs, Kathy Greenwood, Edwin Gwenzi, Tirril Harris, Gerard Hutchinson, Samantha Jones, Maria Lambri, Julia Lappin, Noel Kennedy, James McCabe, Laura McIntosh, Rosemarie Mallett, Ana Martinez, Ana Miorelli, Craig Morgan, Kevin Morgan, Kris Naudts, Kenneth Orr, Per Rohebak, Jeza Salvo, Chiara Samele, Mandy Sharpley, Simon Vearnals, Jolanta Zanelli (London); Peter Jones, Hemant Bagalkote, Daphne Boot, John Brewin, Gill Doody, Becci Dow, Annette Farrant, Steve Jones, Tuhina Lloyd, Ian Medley, Ramona Moanette, Shilpa Nairi, Mark Ruddell, Jayne Simpson, Sirip Suranim, Jane Tarrant, Philip Whitehead, Pat Williams, Sue Window (Nottingham).

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